

## MEMORANDUM

**DATE:** February 7, 2011  
**TO:** Policy Committee  
**FROM:** W. Scott Whyte, Senior Landscape Planner  
**SUBJECT:** Development Standards -Sound Walls

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### I. Sound Walls

Currently the County has no ordinance requirements or policies regarding sound walls, which are also referred to as noise walls. During the 2009 Comprehensive Plan revision, a Community Character action directed staff to look into drafting a sound wall ordinance or policy through which the County could have input into the placement, height, construction materials, and landscape treatments of sound walls. Previous sound wall applications have been proposed and designed by the Virginia Department of Transportation (VDOT) with construction funded by the federal government and VDOT, or private donors. Per the scope of work for Development Standards, staff has researched the criteria for sound wall placement, how the projects are funded, and the different construction techniques and finish material options to determine the County's role in these decisions.

### II. Discussion items

#### A. **Criteria for sound wall placement**

##### 1. Description of issue /problem

*In 1989 VDOT established a policy to deal with the impact of highway traffic noise on adjacent properties. The policy is called VDOT's Noise Abatement Policy and is based on Federal Highway Administration (FHWA) regulations. To determine when a sound wall is needed on federally funded projects, VDOT will conduct studies on highways built in a new location, existing highways that have significant redesigns, or on highways where the number of through lanes is being increased. With non -federally funded projects, localities can get partial funding from VDOT if the project meets the requirements in the State's Noise Abatement Policy.*

*Using computer models to predict expected noise levels, VDOT can identify noise impacts against VDOT and FHWA criteria. If impacts are identified, then VDOT engineers must investigate noise reduction options, including shifting the road away from the affected properties, reducing the speed limit, restricting heavy truck traffic on the road, designing the road so its surface is lower through the affected area, or creating a natural sound barrier. If designing the road differently will not reduce noise, VDOT engineers then consider noise walls and earth berms. Because of the high number of variables involved, VDOT roadway designers cannot predict if noise walls can be constructed until the road's specific location is determined, o a decision about whether a highway project will include noise walls cannot be made until after final location and design public hearing plans are ready. VDOT holds citizen information meetings periodically as construction plans are developed, in which affected citizens*

can vote on whether they want the walls built, voice concerns, and give input on desired finishes.

2. History

- Sound walls were a hot topic in the County after the Route 199 sound walls were constructed by College Creek. These walls were funded by private donations. Concerned citizens complained that the walls were ugly, blocked a desirable view of the creek, and did not have landscaping or much area to install landscaping.
- The County currently has no policies or zoning ordinance regulations concerning sound walls and staff was unable to find any other localities that have sound wall requirements.

3. Comprehensive Plan GSAs, public input, and PC and BOS direction

- PC members asked staff to research the feasibility of regulating sound wall treatments for height, construction materials, landscape treatments and finishes.
- CC 3.11 – Consider adopting a policy or ordinance in coordination with VDOT that addresses the need for guidelines for sound wall design and landscape treatment.

4. Solutions and policy options

- The location and height of the walls are determined by VDOT; however, the County could give input at the public meetings understanding that the County has less ability to influence the height and placement than aesthetics since changing location or height requires a major redesign.
- A policy could be created that states the County's desired location and height specifications, but it would be difficult to establish specifications on height and placement that could be utilized for every situation that could be encountered.

5. Staff recommendation

- Staff recommends that a policy be drafted that addresses the County's desires regarding maximum height and the minimum amount of planting area expected in front of the wall. The policy could be made available to VDOT before plans are drawn to inform them of the County's preferences. In the end, VDOT would still have final say in the placement and height, but having the County's preference ahead of time will make it more likely that those preferences are applied.

B. **Funding**

1. Description of issue/ problem

- If a project qualifies, the cost to construct sound walls is covered primarily with federal funds. Since federal regulations require that noise mitigation be considered for qualifying construction projects, FHWA pays up to 90 percent of the cost, with VDOT and localities providing the remaining share.
- If it is determined that a sound wall is needed, they must not create a safety or engineering problem, must reduce noise levels by at least 5 decibels, and must cost \$30,000.00 or less per each noise impacted property.
- If the cost is more than \$30,000.00 they can still be built if a third party - someone other than VDOT or FHWA, such as a locality - funds the difference. The neighborhood can also participate as the third party or the affected residents can pursue additional funding sources. Third-party payments must be received before highway construction starts in order to minimize the cost of the walls.

2. History

- See A above.

3. Comprehensive Plan GSAs, public input, and PC and BOS direction
  - *See A above*
4. Solutions and policy options
  - *If a policy is pursued, staff recommends design guidelines and practices that:*
    - *Continue to work within VDOT's directives with respect to sound walls and strive to make guidelines that will not adversely affect federal and state funding for these projects.*
    - *Continue to work with civic groups and local beautification funds to landscape projects that enhance the aesthetics of the walls.*
5. Staff recommendation
  - *Staff recommends any policy that is drafted be coordinated through VDOT and designed to not exceed or minimally exceed VDOT's projected costs of projects, as to not increase or minimize the County's share of the cost.*

**C. Construction materials and aesthetics**

1. Description of issue/ problem
  - *VDOT uses a specially-designed absorptive concrete material for ground-mounted noise walls and a lightweight material, typically absorptive metal, for structure-mounted walls, such as on bridges. Due to the type of noise environment, sound wall manufacturing capabilities and engineering costs, VDOT uses a standard aesthetic design. VDOT surveys the affected citizens and local governments as to the color and finish during various citizen information meetings.*
  - *VDOT encourages citizens and local government officials to make suggestions about how the noise walls will look within a project. Suggestions about the walls can be submitted during citizen information meetings and public hearings. These meetings are held periodically as construction plans for a corridor are developed.*
  - *If citizens or a locality requests an aesthetic finish that is significantly above the standard cost, VDOT allows these parties to fund the difference.*
2. History
  - *See A above*
3. Comprehensive Plan GSAs, public input, and PS and BOS direction
  - *See A above*
4. Solutions and policy options
  - *James City County currently has the ability to make suggestions on sound wall aesthetics during citizen information meetings and public hearings. In addition, if desired, the County can request and fund an aesthetic finish significantly above the standard cost. Staff recommends the County continue to provide suggestions at these meetings, and if needed, consider funding aesthetic upgrades on a case by case basis with the use of State Transportation source funding. A link that shows the acceptable materials and finishes is provided below:  
[www.cpsprecast.com](http://www.cpsprecast.com) (Coastal Precast Systems).*
  - *If a more formalized and consistent approach is desire, a policy would be more appropriate than an ordinance. Since the projects are in the VDOT right of way, designed by VDOT, and mostly funded by federal and state sources, the County does not have the authority to require any specifications.*
  - *A policy could be drafted that is coordinated through VDOT that states a range of acceptable finishes, colors, and landscape treatments. Landscape treatments may not*

*always be feasible, but by having the County's preferences beforehand, VDOT is more likely to accommodate our needs.*

- *Staff recommends that part of the policy include a provision that a staff member will attend VDOT public meetings concerning sound walls to ensure that the County's policy is considered in the design process.*

5. Staff recommendation

- *Staff recommends relaying County preferences on sound wall aesthetics on a case-by-case basis through existing mechanisms and drafting a policy coordinated through VDOT that addresses the County's preference for sound wall finishes, color, and landscape treatment.*

### III Conclusion

Staff recommends conducting additional research to determine the County's general preferences on maximum sound wall height, minimum planting areas in front of sound walls, sound wall finishes, color, and landscape treatment. Such research would be geared toward working within VDOT's directives to allow continued federal and state funding and would also identify any additional costs associated with aesthetic upgrades. These preferences would be relayed through existing mechanisms and incorporated into a County policy.